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This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

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Additional inventors are being named on the \_\_\_\_\_ separately numbered sheets attached hereto

### TITLE OF THE INVENTION (280 characters max)

*Context-of-Use Independent Content Systems*

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### ENCLOSED APPLICATION PARTS (check all that apply)

Specification Number of Pages

CD(s), Number

Drawing(s) Number of Sheets

Other (specify)

Disclosure 614591

Application Data Sheet. See 37 CFR 1.76

### METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)

Applicant claims small entity status. See 37 CFR 1.27.

A check or money order is enclosed to cover the filing fees

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The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

No.

Yes, the name of the U.S. Government agency and the Government contract number are: \_\_\_\_\_.

Respectfully submitted,

SIGNATURE 

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Docket Number: **US030275**

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This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 6 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Alexandria, VA 22313-1450.

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# Context-of-use independent content systems

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## Problem statement:

The context-of-use determines the boundary between content and content description. Assume a content system stores CD related information like the music (i.e. audio-streams), CD-cover (i.e., pictures), lyrics (i.e., simple text), etc. In the context-of-use of a CD-player the music itself is considered to be the content whereas the CD-cover and the lyrics are considered to be the content description. On the other hand, in the context-of-use of a Picture-viewer the picture of the CD-cover is considered to be the content whereas the music and the lyrics are considered to be content descriptions. So if the context-of-use is unknown it is impossible for a content system to distinguish content from content descriptions. The most content systems nowadays use a pre-defined context-of-use in order to distinguish content from content descriptions. Due to this these systems can only cover a specific range of products. Moreover, if the context-of-use changes over time these content systems have to be adapted to these changes as well.

## Solution:

The content system only provides relations between content (e.g., relations between music, CD-cover and lyrics). Since the product (e.g. CD-player or Picture-viewer) is in the context-of-use, it is left to the product to distinguish content from content descriptions. The benefits are that the same content system can be used in different context-of-use and it is less vulnerable to changes over time.

## Implementation:

Figure 1 shows a possible implementation of a context-of-use independent content system. The retrieved, extracted or generated content enters the system at a "Pre-processing"-module. It is responsible to validate the content at the "Content storage"-module, which actually stores the content (optionally, a proxy approach can be used). In case the content is new to the "Content storage"-module the content will be added. Moreover, the "Pre-processing"-module identifies relations between different types of content and offers these to the "Content relation Data Base"-module, which actually stores the content relations.

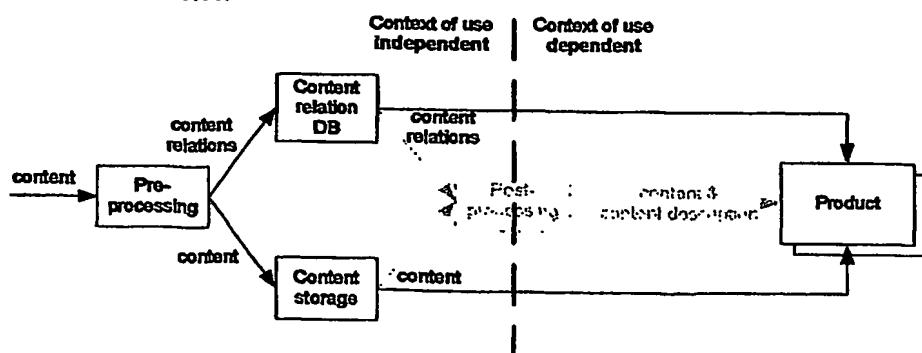


Figure 1 Content system

The Product queries the content system either directly via the "Content relations DB"-module and "Content Storage"-module or indirectly via a "Post-processing"-module. The latter combines the content relations with the actual content. It enables richer queries.

the content itself (e.g. word search in text files), combining of content, allows different types of communication, etc. It might even put specific context-of-use in case the product is not able to do so. The latter reflects for example a technical reason (e.g., performance or power consumption) or marketing reason (e.g., a special offer to additional on-line services).

### Example

Consider the CD-player and Picture-viewer from the previous example again. The "Content storage"-module stores music, pictures and text files and the "Content relation DB"-module stores all possible relations between these content types (i.e., music↔pictures, text↔music, pictures↔text). Assume a "Pre-processing"-module derives the lyrics from song A from an Internet Cddb-database. It validates whether the lyrics are already stored (as text) in the "Content storage"-module. In case the lyrics are new, the "Pre-processing"-module may offer a new text↔music relation (e.g., lyrics↔song A) to the "Content relation DB". In case the lyrics are already stored, the "Content Storage"-module may update them if necessary.

Assume the CD-player interfaces directly to the content. Consumer A wants to hear song A from his new CD so he inserts the CD containing song A into the CD-player. On this moment the CD-player automatically queries the "Content relation DB"-module in order to retrieve all possible content relations to song A. It will retrieve relations to the CD-cover (i.e., picture) and to the lyrics of song A (i.e., text). Now it is up to the CD-player to retrieve the content (picture and lyrics) from the "Content Storage"-module, interpret it and present it to the customer as content descriptions in the most suited way.

Assume the Picture-viewer interfaces indirectly to the content system via a "Post-processing"-module. Consumer B is using the Picture-viewer to scan some pictures and is looking for the picture of the CD-cover of the CD containing song A. He only remembers one sentence from the song. He provides it to the Picture-viewer that in turn queries the content system via the "Post-processing"-module. This module queries the "Content Storage"-modules for lyrics containing this sentence. It finds song A and queries the "Content relation DB"-module to retrieve all relations to song A. It uses the lyrics↔picture relation to retrieve the picture of CD-cover from the "Content Storage"-module and sends it to the Picture-viewer. Optionally, the "Post-processing"-module may also provide a link to the music itself. Now it is up to the Picture-viewer to retrieve the content (music) from the "Content Storage"-module, render it and present to the customer as content descriptions in the most suited way (e.g., only a few seconds of the most characteristics part).

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